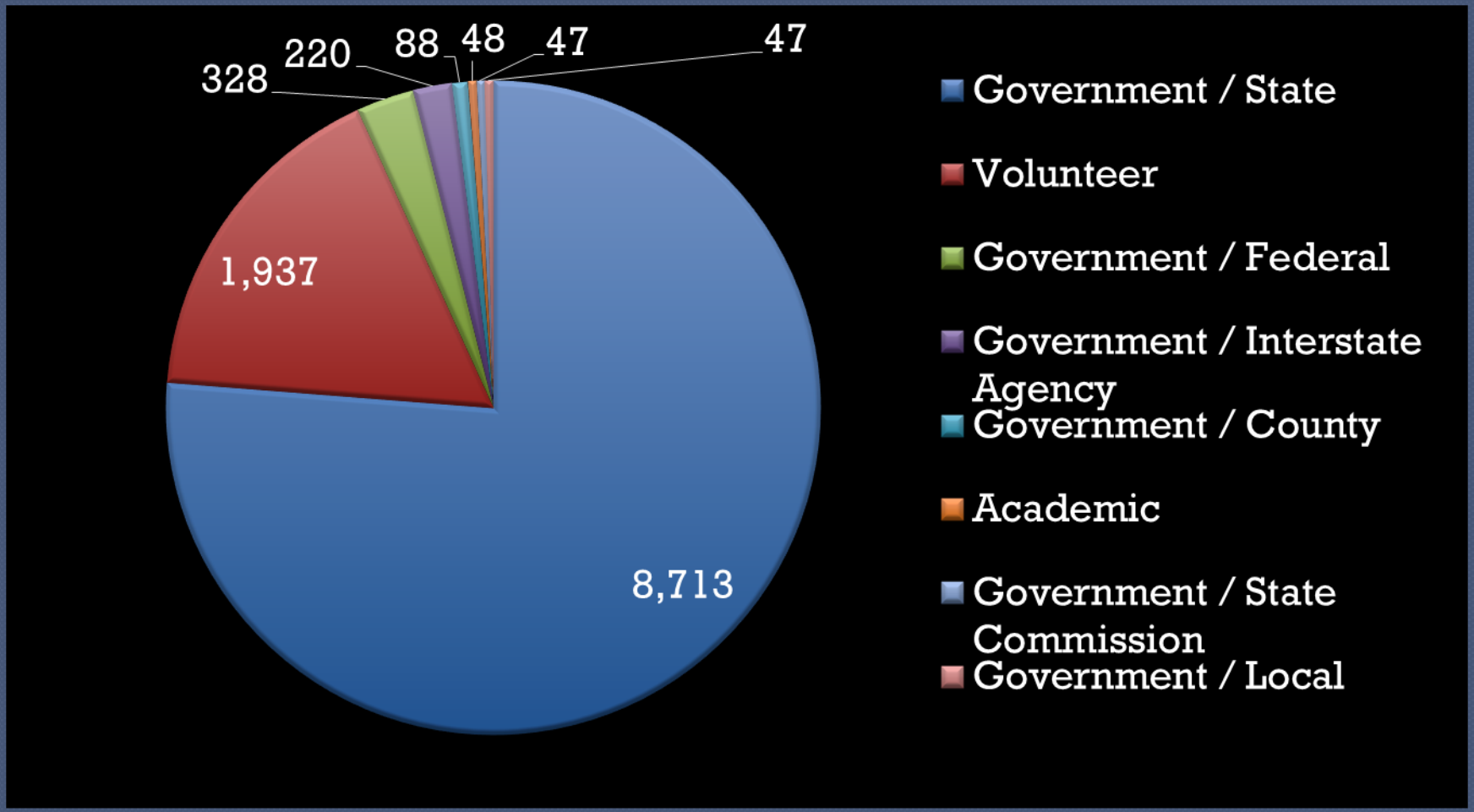
NJDEP Water Quality Data Exchange

New Jersey Water Monitoring Council

October 3, 2012

WQDE Monitoring Locations

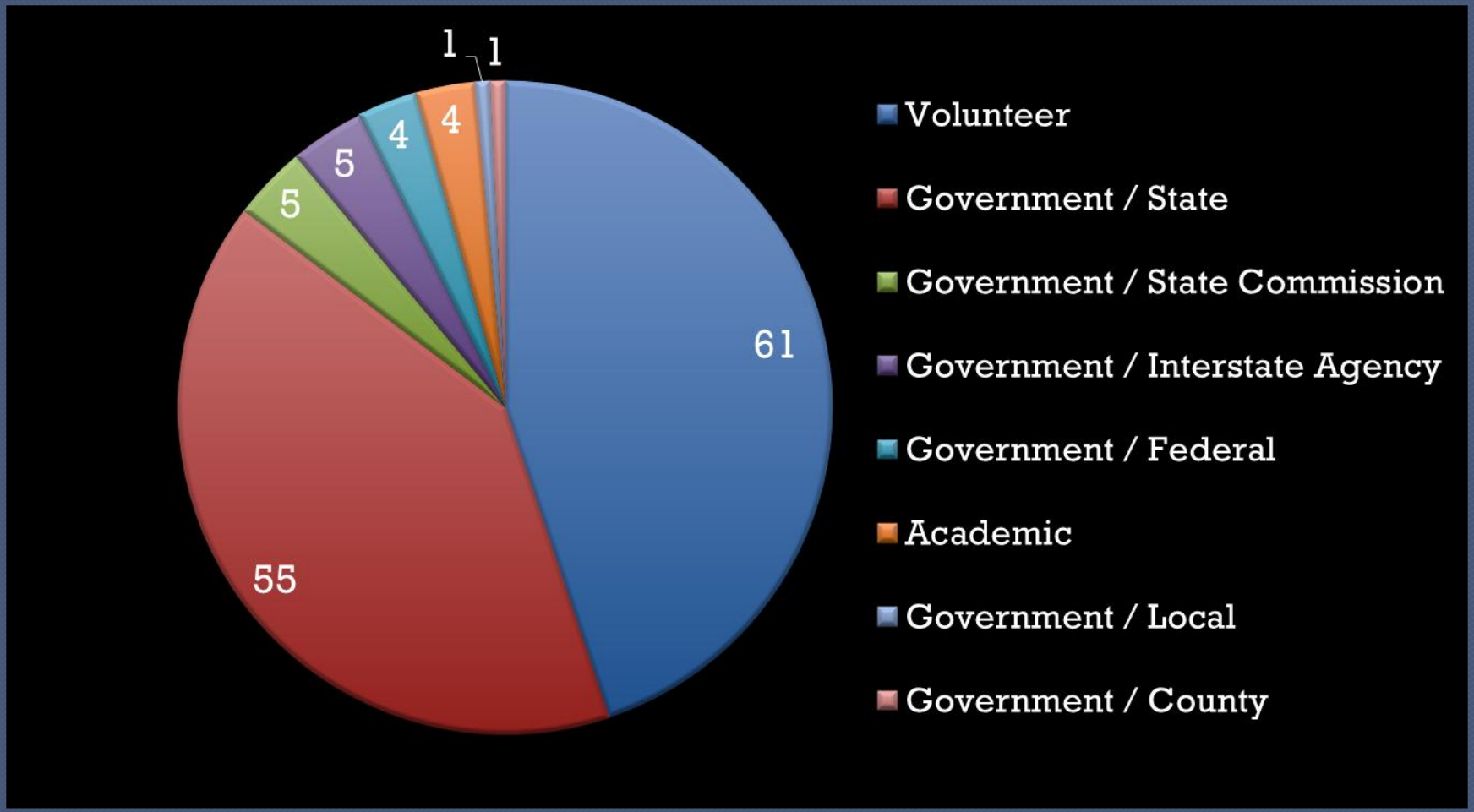


WQDE Monitoring Locations

ORGANIZATION	MONITORING LOCATIONS
NJDEP Bureau of Marine Water Monitoring	4688
NJDEP Bureau of Freshwater and Biological Monitoring	2509
NJDEP, NJ Watershed Ambassador Program	1686
NJDEP Americorps Program	802
Environmental Protection Agency Region 2	328
New Jersey Pinelands Commission	296
NJDEP Office of Science	250
Delaware River Basin Commission	220
Monmouth County Health Department	88
NJDEP Barnegat Bay	76
Great Swamp Watershed Association	70
Stony Brook-Millstone Watershed Association	52
RCE Water Resource Program	48
Brick Utilities	47
New Jersey Harbor Dischargers Group	33

ORGANIZATION	MONITORING LOCATIONS
Musconetcong Watershed Association	32
Upper Raritan Watershed Association	32
South Branch Watershed Association	20
NJDEP Reference Sites	10
NJDEP Volunteer Monitoring Group	10
Passaic River Educational Environmental Monitoring	9
Crafts Creek Spring Hill Brook Watershed Association	7
Get to Know your H20	4
Stockton Boro School	3
Pompeston Creek Watershed Association	2

WQDE Projects

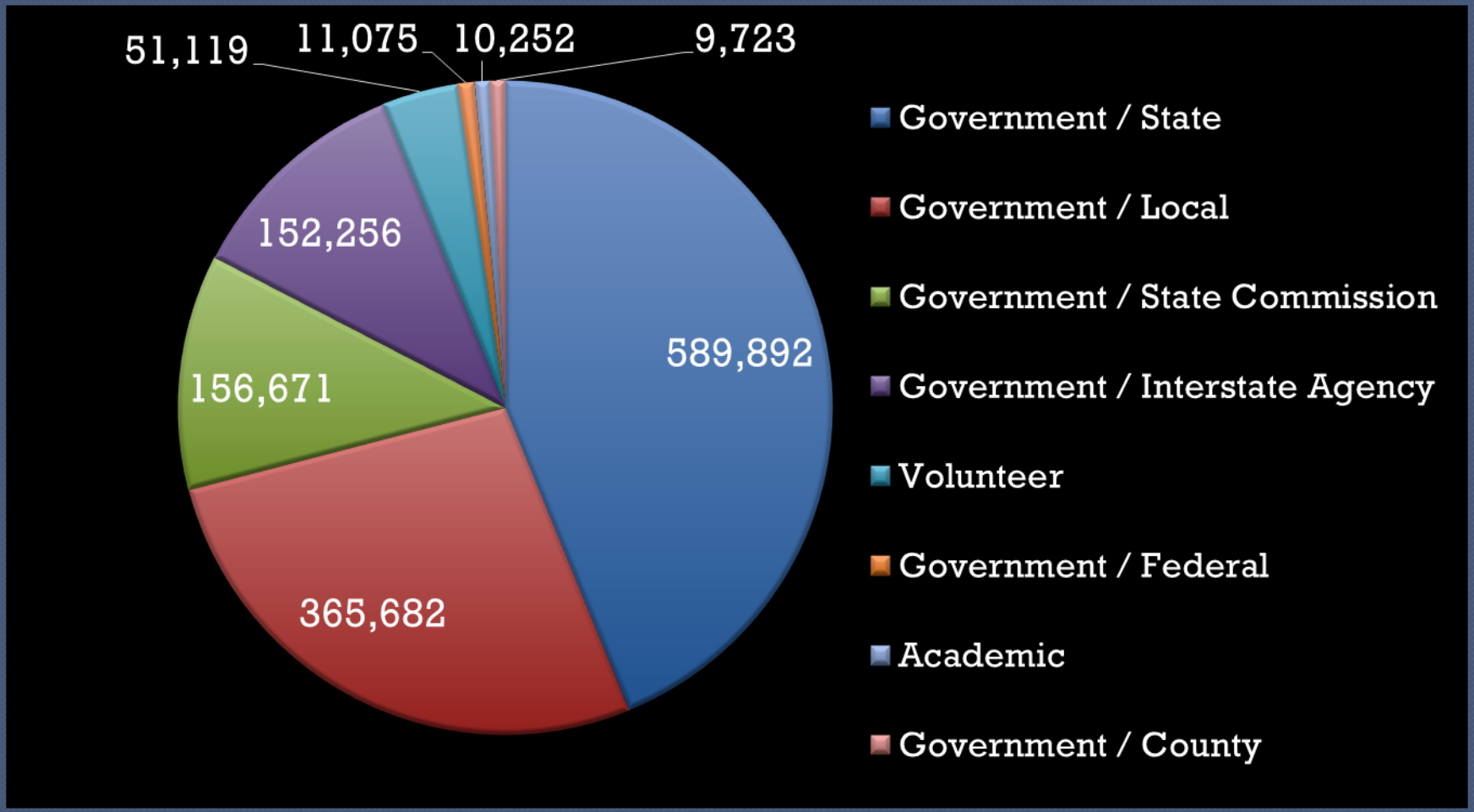


WQDE Projects

ORGANIZATION	PROJECTS
NJDEP Bureau of Freshwater and Biological Monitoring	32
South Branch Watershed Association	18
Great Swamp Watershed Association	6
Musconetcong Watershed Association	5
NJDEP, NJ Watershed Ambassador Program	5
Pompeston Creek Watershed Association	5
Stony Brook-Millstone Watershed Association	5
Delaware River Basin Commission	4
Environmental Protection Agency Region 2	4
New Jersey Harbor Dischargers Group	4
NJDEP Americorps Program	4
NJDEP Bureau of Marine Water Monitoring	4
RCE Water Resource Program	4
Stockton Boro School	3
Upper Raritan Watershed Association	3

ORGANIZATION	PROJECTS
Get to Know your H20	2
NJDEP Bureau of Environmental Analysis and Restoration	2
NJDEP Reference Sites	2
Brick Utilities	1
Crafts Creek Spring Hill Brook Watershed Association	1
Delaware Riverkeeper Network	1
Ewing Twp Env Commission	1
Jenkinson's Aquarium	1
Monmouth County Health Department	1
New Jersey Pinelands Commission	1
NJDEP Barnegat Bay	1
NJDEP Office of Science	1
NJDEP Volunteer Monitoring Group	1
Passaic River Educational Environmental Monitoring	1

WQDE Results

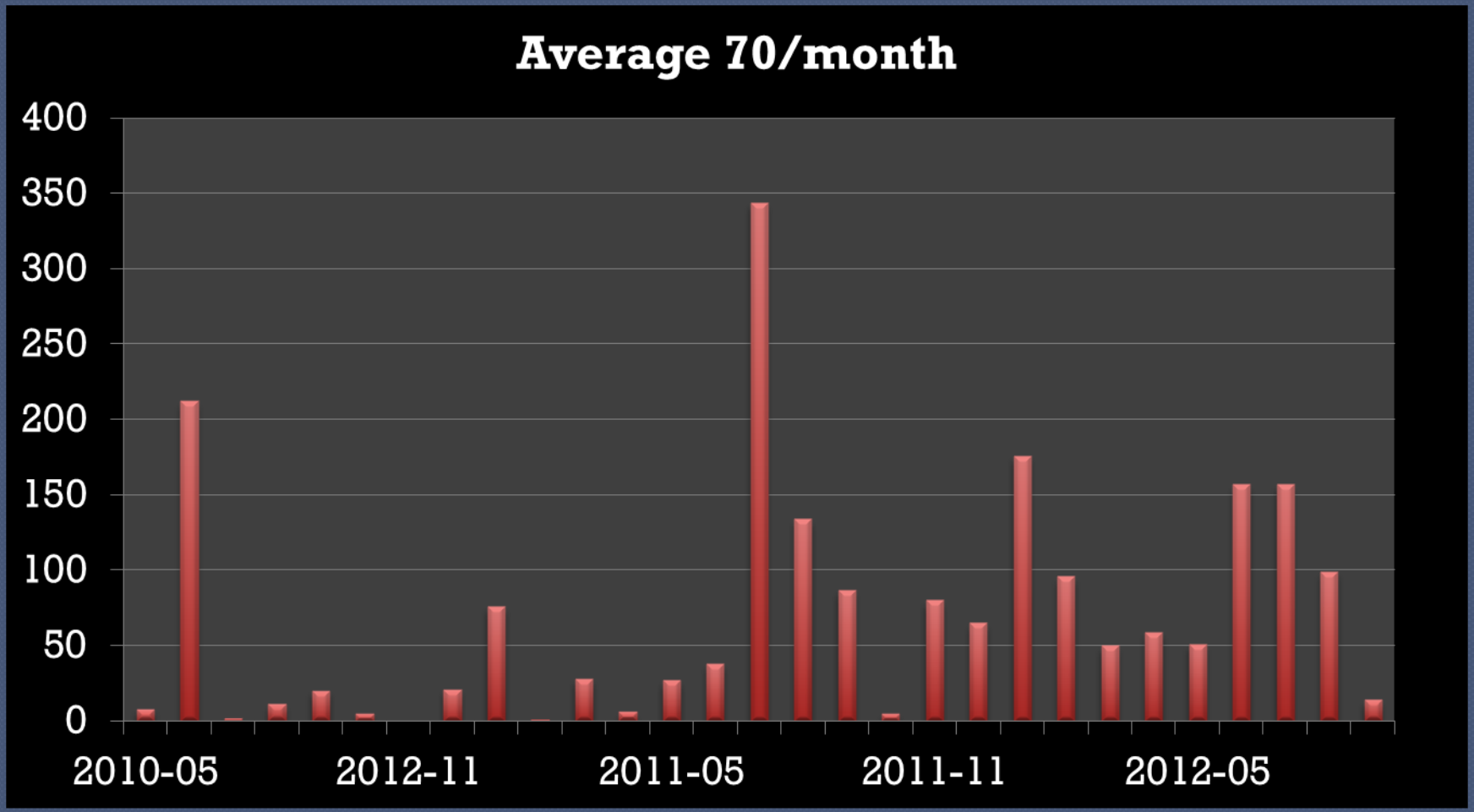


WQDE Results

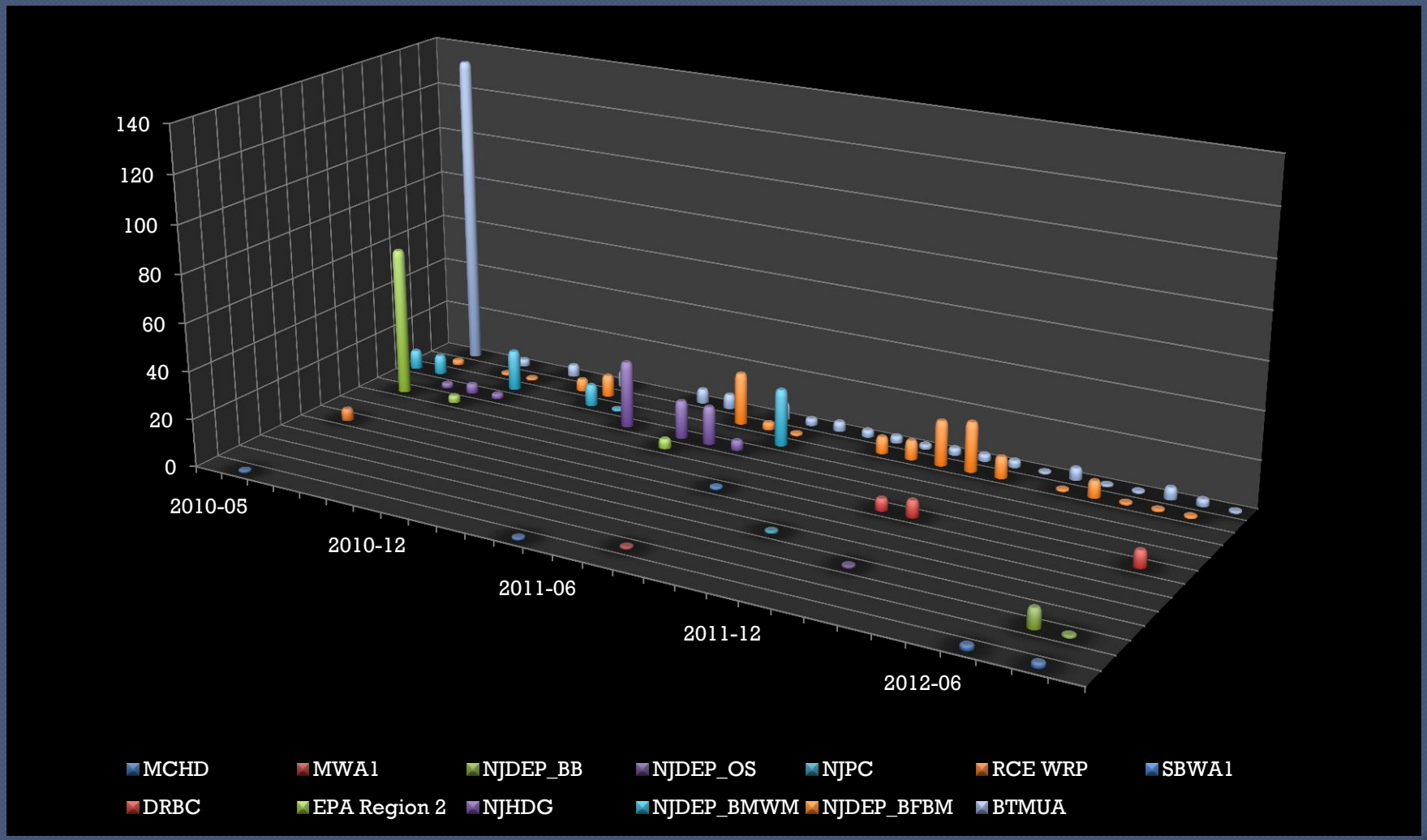
ORGANIZATION	RESULTS
Brick Utilities	365,682
NJDEP Bureau of Marine Water Monitoring	274,172
NJDEP Bureau of Freshwater and Biological Monitoring	196,216
New Jersey Harbor Dischargers Group	156,671
Delaware River Basin Commission	152,256
NJDEP Barnegat Bay	62,170
NJDEP Americorps Program	31,278
NJDEP, NJ Watershed Ambassador Prog	24,480
New Jersey Pinelands Commission	22,698
Stony Brook-Millstone Watershed Association	13,879
Environmental Protection Agency Region 2	11,075
RCE Water Resource Program	10,252

ORGANIZATION	RESULTS
Monmouth County Health Department	9,723
Great Swamp Watershed Association	3,937
Musconetcong River Watershed Association	3,926
NJDEP Office of Science	3,358
Upper Raritan Watershed Association	2,374
South Branch Watershed Assoc	1,031
NJDEP Volunteer Monitoring Group	671
Passaic River Educational Environmental Monitoring	525
Stockton Boro School	133
NJDEP Reference Sites	96
Get to Know your H20	67

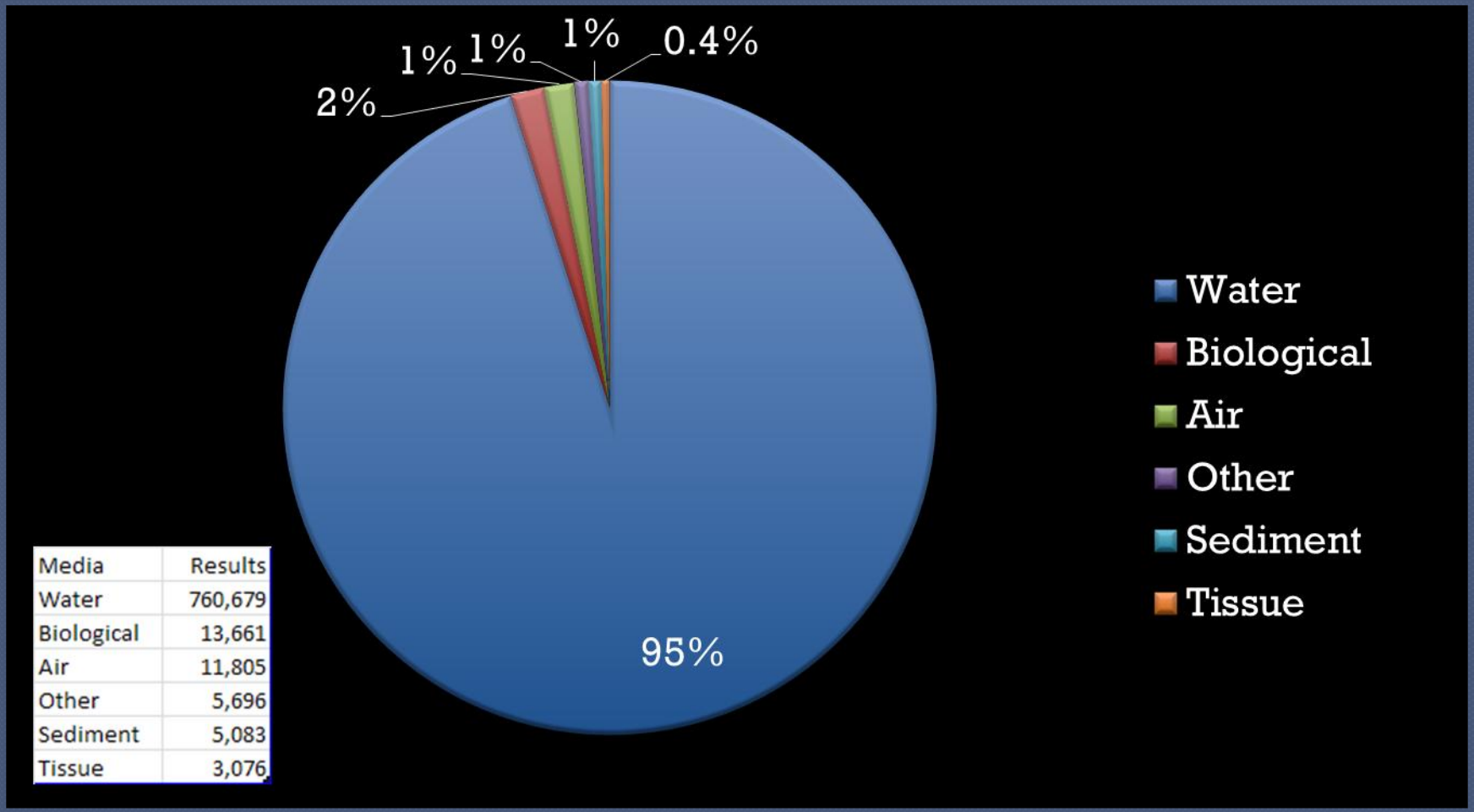
WQDE Data Submissions



WQDE Submissions over Time

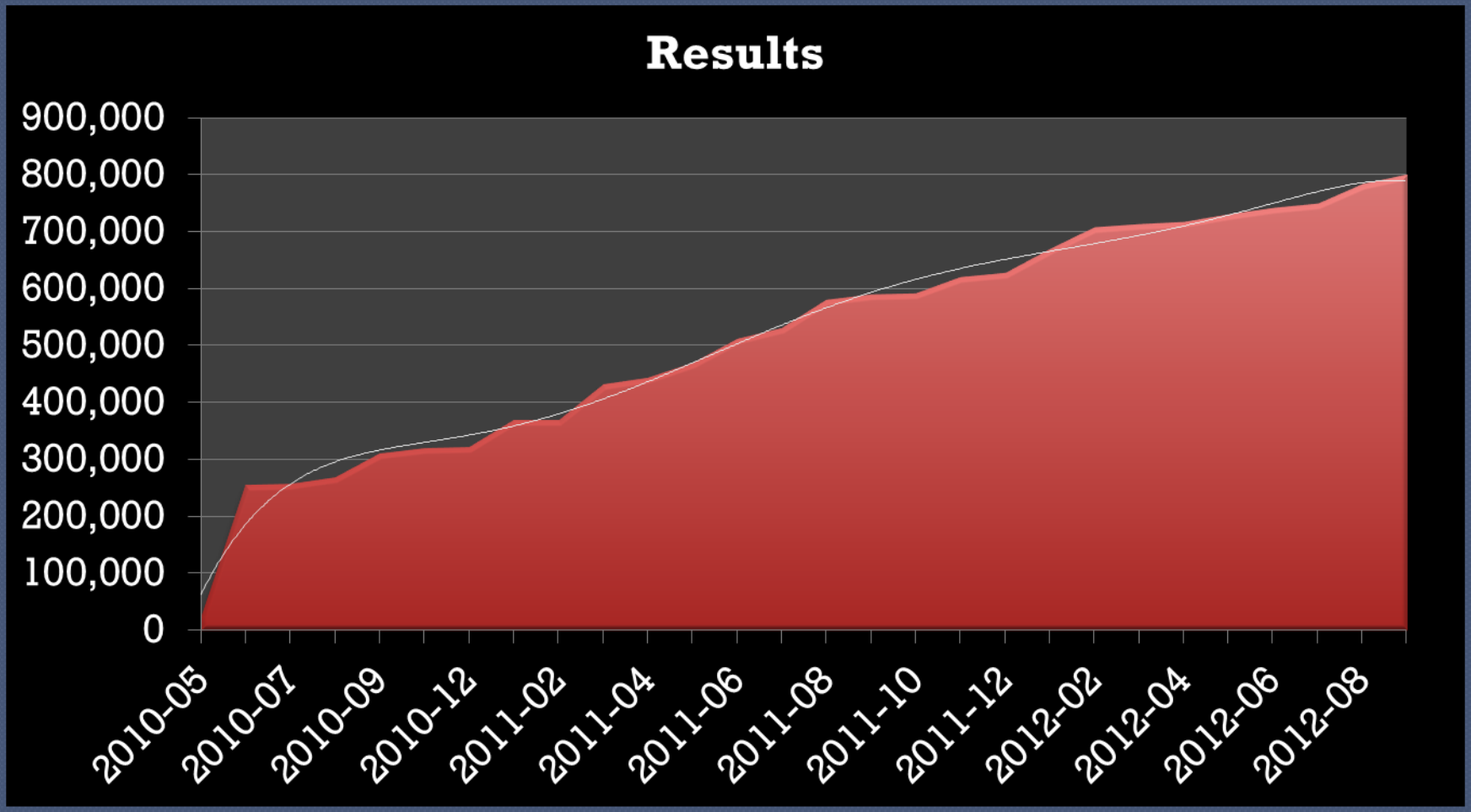


Types of WQDE Results



Media	Results
Water	760,679
Biological	13,661
Air	11,805
Other	5,696
Sediment	5,083
Tissue	3,076

Growth of WQDE



New Release of WQDE

- NEW – Supports larger files (20,000 results public, 100,000 result within NJDEP)
- NEW – Faster processing time (20,000 results – 2 min, 30,000 results – 3 min)
- NEW-Supports zip files uploads for chemical results (shorter wait when uploading files)
- New- Downloadable error reports with all errors.
- Expected Release: Fall 2012

Data Quality Quotes

- "You don't take data if you're not going to look at it"
- "You don't get to pick and choose what you enter into WQDE"
- Just reviewing results that exceed the surface water quality data biases your data

WQDE Data Checks

- WQDE looks for "unusual" values by comparing your results to historical minimum and maximum values for NJ.
- WQDE checks for valid Characteristics and units (no more Temperature reported as mg/l)
- WQDE checks that the dissolved fraction is less than the total fraction

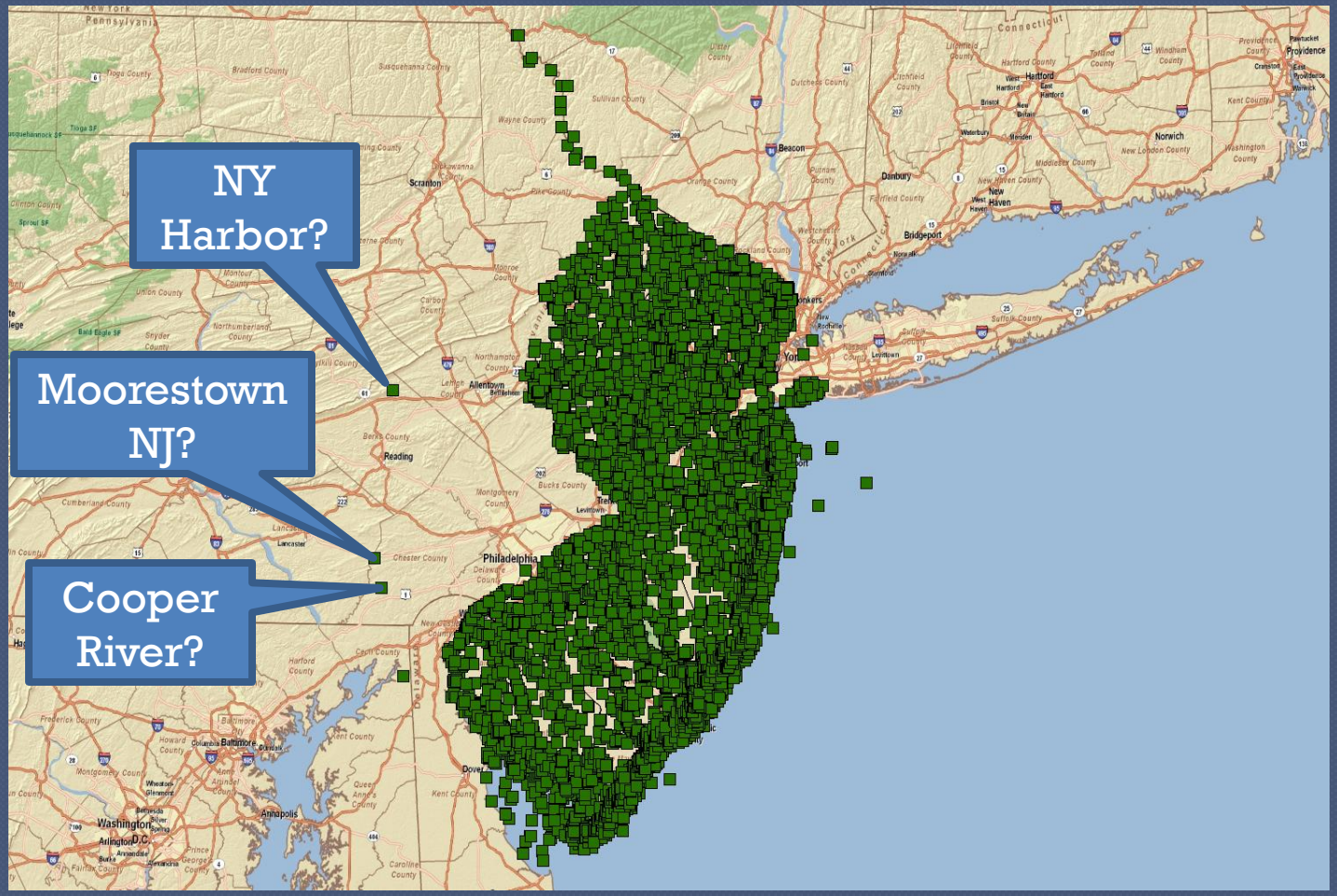
Expectations/Communication

- IT staff depend on WQDE to catch the "big errors"
- WQDE only gives data quality warnings but organizations can ignore the warnings and still submit their data
- Data errors get discovered when someone goes to use the data, sometimes weeks, months or years later.

Checks for Monitoring Locations

- Make sure your monitoring locations are spatially correct
  - Use GIS or online web sites to make sure your coordinates are correct and that the points show up on the water
  - Use the map feature in WQDE to verify the point
  - Look at your points using NJ-GeoWeb
- Use the Monitoring Location name field and include the waterbody and a nearby feature (Stony Brook at Route 206)

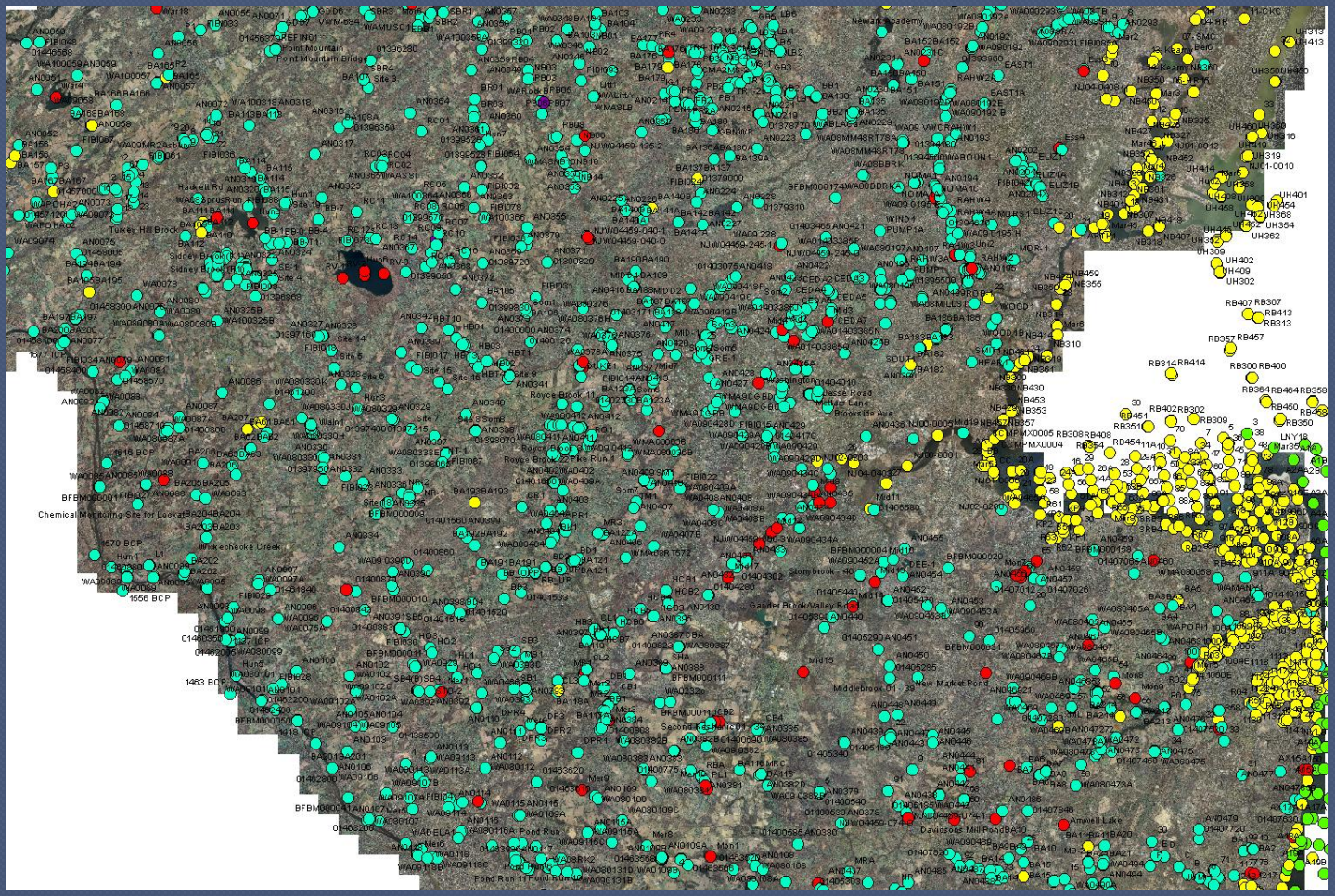
Spatial Errors



Good Practices

- Don't re-use station numbers and just edit the coordinates in WQDE. If you move it, it gets a new station number
- Use the right station type. WQDE can't tell when you use "Estuary" for your River and Lake stations.

Wrong Station Types



Yellow = Estuary, Cyan = River/Stream, Red = Lake

Use the Right Activity Type

- Routine Sample – "Grab" Sample
- Field Msr/Obs – Things measured/observed in the field
- Field Msr/Obs – Portable Data Logger (aka data logger or data sonde)
- If you are entering QC data (blanks, dupes, etc) make sure you distinguish those results from the regular samples with the activity type

Important Result Information

- Sample fraction (especially for metals)
  - There is a difference between total, dissolved and total recoverable
  - NJ Surface Water Quality Criteria are specific to a particular fraction
- Method Speciation (the "as" thing)
  - Phosphorus measured as PO4 will produce a much larger results than Phosphorus measured as P

Result Checks

- Make sure your data passes common sense tests:
  - Impossible values (pH 15, DO of 200)
  - All results the same (especially all 0)
  - Unusual values for the area
- Remember to qualify questionable data ("Estimated" value type, "J" remark code) and use the result comment field to explain why

Overall

- Users gain or loose confidence about your data based on their experiences with the data
- We're looking for reliable data, not lots of data (no bean counting)
- Make frequent, timely submissions to WQDE
- Use the new, larger file size capabilities to reduce your data entry burden, not to increase the time between your submissions